

## **REMARKS**

Claims **1-24** were pending in this application. According to the August 25, 2006 Office Action, claims **1-24** were rejected.

We have amended independent claims **1** and **13**, have amended dependent claims **2-12** and **14-24**, and have added new dependent claims **25** and **26**, which depend from claims **1** and **13**, respectively. The amendments do not introduce any new matter.

Accordingly, independent claims **1** and **13** and dependent claims **2-12** and **14-26** are under consideration.

### **Summary of Claim Amendments**

We have amended independent claims **1** and **13** to recite particular embodiments that we, in our business judgment, have currently determined to be commercially desirable. We have added new dependent claims **25** and **26**, which recite limitations similar to limitations removed from previously presented claims **1** and **13**. We have amended dependent claims **2-12** and **14-24** in view of the changes to claims **1** and **13**, in view of new claims **25** and **26**, and to correct several minor typographical errors.

### **Response to the Rejection of Claims 13-24 under 35 U.S.C. § 112**

With respect to the rejection of previously presented claims **13-24** under 35 U.S.C. § 112, second paragraph, as being indefinite, the Examiner characterized the rejection as the “claims [being] directed toward a system however there is no recitation of any structure.” We respectfully disagree. We note that previously presented claims **13-24** recite means plus function limitations and that corresponding structures (e.g., one or more processors) are disclosed in the specification at paragraphs 24-29, for example, in such a way that one skilled in the art would clearly understand that such structures may perform the recited functions. Accordingly, because the specification discloses structures for performing the recited functions, we submit that previously presented claims **13-24** are not indefinite.

Nonetheless, to expedite prosecution of this application, we have amended independent claim **13**, and similarly claims **14-24**, to recite an “apparatus comprising a computing device operable to perform the method of claim 1”, support for which claims may be found at

paragraphs 24-29, for example. In view of the foregoing, we respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 112, second paragraph.

**Response to the Rejection of Claims 13-24 under 35 U.S.C. § 101**

With respect to the rejection of previously presented claims **13-24** under 35 U.S.C. § 101 as the claimed invention being directed to non-statutory subject matter, the Examiner characterized the rejection as the “claims [being] directed toward system claims but do not recite any structural limitations.” Again, for reasons similarly presented above, we submit that previously presented claims **13-24** recite structural limitations and are thereby directed to statutory subject matter.

Nonetheless, to expedite prosecution of this application, we have amended claims **13-24** to recite an apparatus as indicated above. In view of the foregoing, we respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 101.

**Response to the Rejection of Claims 1-8 and 13-20 under 35 U.S.C. § 103(a)**

The Examiner rejected previously presented independent claims **1** and **13** and dependent claims **2-8** and **14-20** under 35 U.S.C. § 103(a) as being unpatentable over Lupien et al., U.S. Patent No. 5,689,652 (hereinafter Lupien) in view of Keith, U.S. Patent Application Publication No. 2004/0236614 (hereinafter Keith). We respectfully submit that Lupien and Keith do not teach, suggest, nor disclose amended claims **1-8** and **13-20**.

Specifically, independent claim **1** recites in part a method comprising:

receiving, in a crossing market, a plurality of bid-offer liquidity spreads from a plurality of market-markers; ...

determining ... all outstanding order imbalances for which the respective price is within at least one of the plurality of bid-offer liquidity spreads;

iteratively selecting one or more bid-offer liquidity spreads from the plurality of bid-offer liquidity spreads;

calculating, based on each selected bid-offer liquidity spread, a crossing price; and

filling all determined outstanding order imbalances at one or more of the crossing prices using liquidity provided by one or more of the market makers.

Lupien discloses an automated crossing system that “allows traders to input as orders [(i.e., bids and offers)] a satisfaction density profile and a maximum size limit.” Each satisfaction density profile “characterizes the trader’s degree of satisfaction for a transaction at [various] (price, size) [combinations].” Thereafter, the system “calculate[s], for each buy/sell profile pair, a mutual satisfaction cross product.” Each element of a “mutual satisfaction cross product represents the degree to which [a trade at a corresponding price/size combination] can satisfy [respective traders].” The system next “ranks each ... element (possible buy/sell pair at a corresponding price and size) of each mutual satisfaction cross product in order from largest to smallest ... [and then matches the] buy/sell pairs ... in the ranked order.” Lupien further discloses that this process continues for “all feasible (i.e., non-zero mutual satisfaction) crosses.” Once “all feasible crosses have been completed, then the process is temporarily suspended until the next order is entered or an existing unmatched order is canceled or modified,” at which point the above process repeats. (Lupien, column 3, line 44 to column 4, line 26; column 9, lines 1-45).

With respect to claim 1, even assuming, *arguendo*, that Lupien discloses “*determining ... all outstanding order imbalances for which the respective price is within at least one of the plurality of bid-offer liquidity spreads,*” Lupien does not teach, suggest, nor disclose “*receiving ... a plurality of bid-offer liquidity spreads from a plurality of market-makers; ... calculating, based on each selected bid-offer liquidity spread, a crossing price; and filling all determined outstanding order imbalances at one or more of the crossing prices using liquidity provided by one or more of the market makers.*” In particular, as discussed above, Lupien appears to disclose a crossing system whereby after a match, existing unmatched orders (i.e., outstanding order imbalances) are cancelled, modified, or only possibly matched against a next entered order(s) and as such, Lupien does not disclose “*filling all determined outstanding order imbalances,*” as claim 1 recites. In addition, for those existing unmatched orders that may be filled against a next entered order(s), Lupien does not teach, suggest, nor disclose that the trader(s) providing the next entered order(s) are “*market makers*” from which are received “*bid-offer liquidity spreads*” and “*calculating, based on [selected ones of such] bid-offer liquidity spread[s], ... crossing price[s],*” and does not teach, suggest, nor disclose then filling the existing unmatched orders at

such calculated prices “*using liquidity provided by ... [such] market makers,*” as claim 1 recites. Accordingly, Lupien does not teach, suggest, nor disclose the above limitations of claim 1.

Turning to Keith, Keith discloses a system whereby a trading match is “run periodically throughout the trading day.” Prior to a match, “traders place ... buy and sell orders.” When “[a] match is run,” “the buy orders are paired with the sell orders.” As disclosed by Keith, a match price for paired buy/sell orders may be based on a “buy-sell quote spread from an external market at the time the match starts.” As further disclosed by Keith, “there is usually an imbalance on either the buy or sell side of a match.” “In order to increase the volume of trades matched in each [match] period [a] trader can purchase insurance to guarantee that his/her order will be matched (executed).” This insurance “is provided by a dealer,” which provides “the missing Buy or Sell” to an insured order that is not matched. As further disclosed by Keith, “at the end of [a] match period any unfilled portion of [an uninsured] order is cancelled,” or possibly “rolled ... to the next match of the day.” “Any portion of an order that is unmatched at the end of the day’s trading is cancelled.” (Keith, paragraphs 38, 43, 58, and 65).

With respect to claim 1, even assuming, *arguendo*, that Keith discloses “*determining ...all outstanding order imbalances in the crossing market for which the respective price is within at least one of the plurality of bid-offer liquidity spreads,*” Keith does not teach, suggest, nor disclose “*receiving ... a plurality of bid-offer liquidity spreads from a plurality of market-makers; ... calculating, based on each selected bid-offer liquidity spread, a crossing price; and filling all determined outstanding order imbalances at one or more of the crossing prices using liquidity provided by one or more of the market makers.*” In particular, as discussed above, Keith appears to disclose a system whereby only unmatched orders (i.e., outstanding order imbalances) for which there is match insurance are filled. Unmatched orders for which there is no match insurance are cancelled or only possibly matched in a subsequent match period and as such, Keith does not disclose “*filling all determined outstanding order imbalances,*” as claim 1 recites. In addition, for those insured and uninsured orders that may be filled, Keith appears to disclose that a dealer and other traders, respectively, fill the orders. However, Keith does not teach, suggest, nor disclose that this dealer and other traders are “*market makers*” from which are received “*bid-offer liquidity spreads*” and “*calculating, based on [selected ones of such] bid-offer liquidity spread[s], ... crossing price[s],*” and does not teach, suggest, nor disclose then

filling the insured and uninsured orders at such calculated prices “*using liquidity provided by ... [such] market markers*,” as claim 1 recites. Accordingly, Keith does not teach, suggest, nor disclose the above limitations of claim 1.

As such, because Lupien and Keith each fails to teach, suggest, or disclose the above limitations of claim 1, the combination of Lupien and Keith also fails to teach, suggest, or disclose claim 1, in addition to claims 2-8 and 25, which depend there from.

Turning to independent claim 13, this claim recites limitations similar to claim 1 and as such, the combination of Lupien and Keith also fails to teach, suggest, or disclose this claim, in addition to claims 14-20 and 25, which depend there from, for reasons similar to claim 1.

We also respectfully submit that the Examiner has not made a *prima facie* case of obviousness under 35 U.S.C. § 103(a) with respect to claims 1-8 and 13-20. Specifically, to establish a *prima facie* case of obviousness, the Examiner has the burden of showing, in part, that there is “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, ... to combine reference teachings” (MPEP § 2143). Notably, a conclusory statement as to the factual question of motivation must be supported by evidence of record and without such evidence, lacks substantial evidence support and is thereby insufficient to establish a *prima facie* case of obviousness. In re Lee, 277 F.3d 1338, 1343-1345 (Fed. Cir. 2002). In the Office Action, the Examiner merely asserted that it “would have been obvious to a person of ordinary skill in the art ... to include the teachings of Keith to the disclosure of Lupien in order to account for any discrepancies between the buy and sell orders. In weighting the crossing price, the system can maximize participation in the market, which increases both the liquidity and depth of the market.” Notably, the Examiner presented no evidence of record to support this conclusory statement as to the suggestion or motivation to combine Keith with Lupien. Accordingly, we submit that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims 1-8 and 13-20 over Lupien in view of Keith.

#### **Response to the Rejection of Claims 9-12 and 21-24 under 35 U.S.C. § 103(a)**

The Examiner rejected previously presented dependent claims 9-12 and 21-24 under 35 U.S.C § 103(a) as being unpatentable over Lupien in view of Keith and in further view of

Gary, U.S. Patent 6,618,707 (hereinafter Gary) and Official Notice. We respectfully submit that because amended claims **9-12** and **21-24** depend from independent claims **1** and **13**, these claims are nonobvious in view of Lupien, Keith, Gary, and Official Notice for the same reasons as set forth above for claim **1**.

We also respectfully submit that the Examiner has not made a *prima facie* case of obviousness under 35 U.S.C. § 103(a) with respect to claims **9-12** and **21-24**. Specifically, with respect to Gary, the Examiner merely asserted in the Office Action that it “would have been obvious to a person of ordinary skill in the art ... to include the teaching of Gary to the disclosure of Lupien in view of Keith in order to maintain a certain degree of liquidity and order in the particular market. In doing so, users of the market can be assured that they are receiving a fair trading price.” Notably and similar to above, the Examiner presented no evidence of record to support this conclusory statement as to the suggestion or motivation to combine Gary with Lupien and Keith. Accordingly, we submit that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims **9-12** and **21-24** over Lupien in view of Keith and Gary.

With respect to the Examiner’s taking of Official Notice regarding the limitations of claims **9-12** and **21-24**, we note that in limited circumstances an Examiner may take official notice, without evidentiary support of record, as to common knowledge. MPEP § 2144.03. However, officially-noted subject matter may only be used to support conclusions as to peripheral issues and cannot be used as the basis for core factual findings in a determination of obviousness. *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001); M.P.E.P. § 2144.03 (A). The determination of patentability must be based on evidence of record. *In re Zurko*, 258 F.3d at 1386. We respectfully submit that the Examiner’s taking of Official Notice regarding claims **9-12** and **21-24** is improper in that the Examiner is required to present evidence of record to support the assertion that the limitations/incentives (i.e., “*additional information as to a size of the crossing*,” “*information relating to an amount of imbalance of buyers and sellers*,” “*names of participating market makers*,” and “*a reduced securities buy price and an increased securities sale price*”) recited by these claims are “old and well known,” rather than merely putting forth conclusory statements as to why these incentives are “old and well known.” In addition, we respectfully submit that the Examiner has failed to present any evidence of record to support the Examiner’s conclusory statement (i.e., that it “would have been obvious to a person of ordinary

skill in the art to include this information as the incentives so that the market maker can profit put themselves in a position to facilitate the most amount of trading, which leads to a greater profit”) as to the suggestion or motivation to combine such incentives with the teachings of Lupien, Keith, and Gary. Accordingly, we submit that the Examiner has failed to establish a *prima facie* case of obviousness with respect to claims **9-12** and **21-24**.

We further submit that the limitations recited by claims **9-12** and **21-24** and the Examiner’s asserted suggestion/motivation regarding these claims are not common knowledge or well-known in the art. We request that if the Examiner wishes to maintain the rejection of claims **9-12** and **21-24** in the next Office Action that the Examiner provide documentary evidence in support of the rejection. 37 C.F.R. 1.104(c)(2); MPEP § 2144.04(C).

### **Conclusion**

Since Lupien, Keith, Gary, and Official Notice fail to teach or suggest the invention as set forth in claims **1-26**, we submit that these claims are clearly allowable. Favorable reconsideration and allowance of these claims are therefore requested.

We earnestly believe that this application is now in condition to be passed to issue, and such action is also respectfully requested. However, if the Examiner deems it would in any way facilitate the prosecution of this application, the Examiner is invited to telephone our undersigned representative at 212-294-7733.

Respectfully submitted,

/Glen R. Farbanish/

January 25, 2007

Date

---

Glen R. Farbanish  
Reg. No. 50,561  
Attorney for Applicants